Mini Project 1: Make a Database Management Software.   **(Total Marks: 10)**

Task:

In this project you are required to develop a Database Management Software. You will develop a Console Application which will present the user with a menu screen with options to view, add, edit, save, search for, and to remove records from a database. The database must be maintained in a file on the local hard disk.

Restrictions:

- You will implement the database using C and must use **linked lists** as the main data structure.
- This is **not** a group activity and each student **must** work independently.
- You are allowed to consult books or Internet resources but should mention the resources in your reports.
- You are not allowed to use classes and objects or other purely object oriented programming constructs.

Deadline: 5th October 2019

Details:

You will be making a database for storing the records of undergraduate students at the Department of Electrical and Computer Engineering, COMSATS University Islamabad. Each record will have the following data fields.

- Student's First Name
- Student's Surname Name
- Intake Year
- Session (Fall or Spring)
- Program ()
- Roll No (a numeric value)

```
struct student
{
    char first_name[20];
    char surname[20];
    char intake_year[4];
    char session[10];
    char program[10];
    int roll_no;
    struct student * next
};
```
CodeSnippet 1: Example Structure Implementation

Your program should allow the user to perform the following operations on the database.
- View the database
- Add items to database
- Remove items from the database
- Edit items in the database
- Search the database for a certain item (based on different fields e.g. Roll No, Name, etc)
- Store/Load the database to/from a file on the hard disk.
- Sort the database according to different data fields (e.g. Name, intake year etc).[*]

Deliverables:
1. Working code uploaded to the portal.
2. Report describing your implementation, the problems you faced, and the limitations of your code.

* This feature is optional and carries extra marks.